WHAT IS CLAIMED IS:

1. A illumination device for microscope, which has a illumination axis, comprising:

illumination means, which emits rays of illumination light, for illuminating a specimen;

a field stop projection lens, which is located on the illumination axis between the illumination means and specimen;

a light deflector array, which is located on the illumination axis between the illumination means and field stop projection lens in conjugation with the specimen, the light deflector array having micro optical deflection portions, which individually deflect the rays of illumination light from the illumination means; and

switch means for switching between a state in which the rays of illumination light is applied to the specimen and a state in which the rays of illumination light is not applied to the specimen.

2. The illumination device according to claim 1, wherein the illumination means comprises a light source.

3. The illumination device according to claim 1, wherein the illumination means comprises light sources, and the light deflector array is located on the illumination axis common between the light sources and the field stop projection lens.

4. The illumination device according to claim 1, wherein the switch means comprises a shutter, which is allowed to open and close, located on the illumination axis between the light deflector array and the field stop projection lens, and prevents transmission of the rays of illumination light as necessary.

5. The illumination device according to claim 2, wherein the switch means comprises a shutter, which is allowed to open and close, located on the illumination axis between the light source and the field stop projection lens, and prevents transmission of the rays of illumination light as necessary.

6. The illumination device according to claim 3, wherein the switch means comprises shutters, which are allowed to open and close, and each of the shutters is located on the illumination axis between the light source and the field stop projection lens, and prevents transmission of the rays of illumination light from the corresponding light source as necessary.

7. The illumination device according to claim 1, wherein the illumination means comprises an LED light source, and the switch means comprises an LED drive controller, which switches on/off the LED light source.

8. The illumination device according to claim 1, wherein the illumination means comprises LED light sources, the light deflector array is located on the illumination axis common between the LED light sources

and the field stop projection lens, and the switch means comprises an LED drive controller, which switches on/off of the LED light sources.

9. The illumination device according to claim 1, further comprising a drive controller, which controls a deflection operation of the micro optical deflection portions and a switching operation of the switch means.

10. The illumination device according to claim 9, wherein the drive controller controls the switching operation of the switch means after the deflection operation of the micro optical deflection portions.

11. The illumination device according to claim 4, further comprising a drive controller, which controls a deflection operation of the micro optical deflection portions and opening and closing operations of the shutter, the drive controller opening the shutter after the deflection operation of the micro optical deflection portions.

12. The illumination device according to claim 5, further comprising a drive controller, which controls a deflection operation of the micro optical deflection portions and opening and closing operations of the shutter, the drive controller opening the shutter after the deflection operation of the micro optical deflection portions.

13. The illumination device according to claim 6, further comprising a drive controller, which controls a

deflection operation of the micro optical deflection portions and opening and closing operations of the shutters, the drive controller opening a shutter corresponding to a light source to be used after the deflection operation of the micro optical deflection portions.

14. The illumination apparatus according to claim 7, further comprising a drive controller, which controls a deflection operation of the micro optical deflection portions, the LED drive controller turning on the LED light source after the deflection operation of the micro optical deflection portions is controlled by the drive controller.

15. The illumination apparatus according to claim 8, further comprising a drive controller, which controls the deflection operation of the micro optical deflection portions, the LED drive controller turning on an LED light source to be used after the deflection operation of the micro optical deflection portions is controlled by the drive controller.